

1. (previously presented) A method of simultaneously displaying a two or three dimensional parametric perfusion image and an anatomical structural image of the region of interest corresponding to the parametric perfusion image on an ultrasonic image display, comprising:

acquiring an anatomical structural image of a region of interest of a subject comprising tissue containing blood flow;

acquiring harmonic signal components from a harmonic contrast agent in the region of interest of the subject;

processing harmonic signal components of corresponding locations in a sequence of images to form a parametric image of a perfusion characteristic of the tissue of the region of interest; and

displaying the parametric perfusion image in anatomical registration with the anatomical structural image, wherein the relative opacity of the registered parametric image and anatomical structural image is variable over a range of relative opacities.

2. (canceled)

3. (currently amended) The method of claim 1, wherein acquiring harmonic signal components and a parametric image ~~processing harmonic signal components~~ further comprises acquiring a parametric image of the blood flow perfusion of the tissue in the region of the body.

4. (original) The method of claim 3, further comprising directing a flow of contrast agent to the region of interest of the subject.

5. (currently amended) The method of claim 1, further comprising varying the relative opacity of the registered parametric image and anatomical structural image in a continuous manner.

6. (previously presented) The method of claim 1, further comprising varying the relative opacity of the registered parametric image and anatomical structural image in a stepwise manner.

7. (original) The method of claim 5, wherein varying the relative opacity further comprises varying the opacity within a range extending from an opaque anatomical image and a transparent parametric image; to an opaque anatomical image overlaid with an opaque parametric image; to a transparent anatomical image and an opaque parametric image.

8. (original) The method of claim 7, wherein varying the opacity within a range further comprises varying the opacity within a range which includes an opacity setting in which a translucent parametric image is shown in registration with a substantially opaque anatomical image.

9. (original) The method of claim 6, wherein varying the relative opacity further comprises varying the opacity within a range extending from an opaque anatomical image and a transparent parametric image; to an opaque anatomical image overlaid with an opaque parametric image; to a transparent anatomical image and an opaque parametric image.

10. (currently amended) A diagnostic imaging system for displaying a two or three dimensional parametric perfusion image in anatomical registration with a two or three dimensional anatomical structural image of a region of interest of a subject comprising:

an image processor which produces anatomical structural images of a region of interest of a subject comprising tissue containing blood flow;

a contrast signal processor which produces harmonic signals received from a harmonic contrast agent in the region of interest;

a parametric perfusion image processor responsive to harmonic signals from corresponding locations in a sequence of images which produces a parametric perfusion image of the tissue of the region of interest of the subject;

a display coupled to the ~~source of anatomical structural images~~ processor and the parametric perfusion image processor which displays an anatomical structural image and a corresponding parametric perfusion image of the same region in anatomical registration;

a display processor coupled to the display which acts to set the relative opacity of the registered anatomical structural image and parametric perfusion image; and

a user control, coupled to the display processor, by which a user can set the relative opacity of the registered anatomical structural image and parametric perfusion image.

11. (previously presented) The diagnostic imaging system of Claim 10, wherein the parametric perfusion image comprises a parametric image of a characteristic of the blood flow perfusion in the region of interest.

12. (canceled)

13. (previously presented) The diagnostic imaging system of Claim 10, wherein the display processor further comprises an opacity processor which acts to set the relative opacity of the registered anatomical image and parametric perfusion image within a range varying from an opaque anatomical image and a transparent parametric perfusion image; to an opaque anatomical image overlaid with an opaque parametric perfusion image; to a transparent anatomical image and an opaque parametric perfusion image.

14. (previously presented) The diagnostic imaging system of claim 10 wherein the user control comprises a user control, coupled to the display processor, by which a user can set the relative opacity of the registered anatomical image and parametric perfusion images within a continuous range of relative opacity settings.

15. (previously presented) The diagnostic imaging system of claim 10 wherein the user control comprises a user control, coupled to the display processor, by which a user can set the relative opacity of the registered anatomical image and parametric perfusion images to one of a discrete number of relative opacity settings.

16. (previously presented) The diagnostic imaging system of claim 10 wherein the user control comprises a user control, coupled to the display processor, by which a user can set the relative opacity of the registered anatomical image and parametric perfusion images to a setting in which the display displays a translucent parametric perfusion image in registration with a substantially opaque anatomical image.

17. (previously presented) The diagnostic imaging system of claim 10 wherein the display further comprises a display which displays in real time a anatomical image sequence and a corresponding parametric perfusion image sequence in anatomical registration.

18. (previously presented) The diagnostic imaging system of claim 10 wherein the user control comprises a user control, coupled to the display processor, by which a user can set the relative opacity of the registered anatomical image and parametric perfusion image to a setting in which the display displays a translucent anatomical image in registration with a substantially opaque parametric perfusion image.

19. (previously presented) The diagnostic imaging system of claim 10 wherein the user control further comprises a plurality of separate user controls by which a user can set the opacity of the parametric perfusion image and the opacity of the registered anatomical image.